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**THE COMPOSITION OF FDI IN THE MENA REGION  
AND OTHER COUNTRIES: ECONOMETRIC  
INVESTIGATION AND IMPLICATIONS  
FOR MENA COUNTRIES**

**Philipp Harms and Pierre-Guillaume Méon**

**Working Paper No. 793**

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## Abstract

We investigate the determinants of the distribution of FDI across greenfield investment and mergers and acquisitions in a sample containing up to 91 developed and developing countries over 1987-2005. The share of M&As is found to increase with market capitalization and better civil rights. Openness to trade reduces the share of M&As in favor of greenfield investment. We compare the composition of FDI flows to MENA countries to the predictions of the estimated model. We observe a great heterogeneity among those countries.

**JEL Classification:** F21, F23, F43, O16.

**Keywords:** Foreign direct investment, mergers and acquisitions, greenfield investment, entry mode.

## ملخص

نقوم بالتحقيق في محددات توزيع الاستثمار الأجنبي المباشر عبر الاستثمار التأسيسي وعمليات الاندماج والاستحواذ في عينة تحتوي على ما يصل إلى 91 البلدان المتقدمة والبلدان النامية على مدى 1987-2005. تم العثور على حصة من عمليات الاندماج والشراء لزيادة القيمة السوقية والحقوق المدنية الأفضل. الانفتاح على التجارة يقلل من حصة عمليات الاندماج والشراء في صالح الاستثمار في مجالات جديدة. وقمنا بمقارنة تكوين تدفقات الاستثمار الأجنبي المباشر إلى بلدان المنطقة لتوقعات النموذج المقدر. نلاحظ وجود عدم تجانس كبير بين تلك البلدان.

## **1. Introduction**

Over the last decades, foreign direct investment (FDI) has surged to become one of the main forms of capital flows to developing countries. From less than one percent of their GDP until the early nineties, FDI has grown to exceed 2% since the mid-nineties, and reached a high of 3.82% in 2007. Moreover, according to UNCTAD (2010), the relative weight of developing countries in total FDI has increased to nearly one half of world inflows in 2009, and is expected to keep increasing.

However, these aggregates hide an important qualitative evolution. The composition of FDI flows worldwide has evolved together with their volume. Namely, the share of greenfield investment to total FDI in developing countries has decreased substantially around the turn of the millennium before picking up again. Moreover, some countries only host greenfield investment, while the bulk of FDI in other countries is in the form of M&As.

The distinction between M&As and greenfield investment is important because the two forms of FDI differ fundamentally. In greenfield investment, foreign investors build a new productive unit, whereas in M&As they acquire existing assets. Their effects on host countries' capital stock, productivity, and growth are, therefore, bound to be different. In line with that contention, Harms and Méon (2011) find that larger inflows of greenfield investment lead to faster growth, while larger M&A inflows have no effect, at best, in a sample of developing countries over the period 1987-2005.

However, the determinants of the distribution of FDI between its two forms are largely unknown. This is surprising since a large body of literature has studied the determinants of the mode of entry of foreign firms from a microeconomic perspective: Müller (2007) or Javorcik and Saggi (2010) for instance address the issue from a theoretical perspective, while Henisz (2000) offers an empirical contribution. An extensive literature surveyed by Slangen and Hennart (2007) also focuses on the mode of entry of foreign firms. As Slangen and Hennart (2007) remarks, that literature focuses on the characteristics of the parent firm and of the industry where it operates, but neglects country determinants. The determinants of FDI have also attracted a lot of attention in the macroeconomic literature (see Alfaro et al. 2008; or Asiedu and Lien 2011, for recent examples). Some studies have investigated the determinants of the volume of M&As inflows, such as di Giovanni (2005) or Coeurdacier et al. (2009). However, no attempt has been made, to our knowledge, to study the determinants of greenfield investment, let alone to study the determinants of the distribution of FDI across its two components. Finally, some studies have focused on the composition of financial inflows from a macroeconomic perspective. Wei (2001) for instance investigates the impact of corruption on the distribution of financial flows between loans and FDI, and finds that corruption tilts it towards the former. Daude and Fratzscher (2008) distinguish portfolio equity securities, debt securities, loans, and FDI. Again, none of those studies decomposes FDI itself.

The aim of the present paper is therefore to provide the first empirical investigation of the determinants of the distribution of FDI between greenfield investment and M&As. To do so, the rest of the paper is organized as follows. Section 2 surveys the literature on FDI and M&As to find the possible determinants of the composition of FDI flows. Section 3 describes our empirical strategy and analyzes the ratio of M&As to total FDI. Section 4 complements our baseline findings by investigating the determinants of volumes of M&As and greenfield investment inflows. Section 5 discusses the implications for MENA countries and section 6 concludes.

## **2. The Determinants of the Composition of FDI Inflows: Theoretical Considerations**

In this section, we grasp insights on the determinants of the composition of FDI inflows by surveying existing work on the determinants of FDI and the choice of the mode of entry of

foreign firms. In doing so, it is helpful to organize the survey by distinguishing factors affecting the supply of domestic assets and those affecting the demand of foreign assets by foreign investors.

### ***2.1 Supply of FDI-type assets***

While greenfield investment can theoretically occur even in an economic desert, M&As require the existence of domestic firms. One should therefore expect the share of M&As in total FDI to be increasing in the stock of domestic assets.

A rough measure of the supply of domestic assets is the host country's level of development; a more developed country is able to accumulate capital and technology. Moreover, early stages of development are associated with a rise in the share of industrial output. This is the main contribution of the classic papers by Hollis Chenery and his coauthors (e.g. Chenery 1960; Chenery and Taylor 1968; and Chenery et al. 1962). Later stages of development displayed a contraction of industrial output but a rise of the share of the service sector. Accordingly, the number of firms and the volume of their assets are likely to increase with development. Imbs and Wacziarg (2003) report a robust relation between the diversity of a country's production and its per capita output that is reminiscent of Chenery's "uniform pattern of change in the structure of production". Namely, the diversity of output tends to increase with income for low initial levels of income per capita, and the trend reverses for high levels of income. If one assumes that the diversification of assets across a larger number of industries implies a larger variety of firms to purchase, one should expect the number and volume of attractive assets to increase with the diversity of the country's development.

The notion that the share of M&As in total FDI should increase with the host country's level of development is also a feature of the model designed by Nocke and Yeaple (2008). In their two-country model, firms from the richer country have an incentive to relocate their production in the poorer country to save on labor costs. However, firms differ in the entrepreneurial abilities of their staff, which creates an extra incentive to invest in the poorer country. Moreover, efficient firms have no incentive to acquire foreign firms, which are likely to be less efficient. They will therefore prefer greenfield investment over M&As. When the income gap between the source and the host countries narrows down, the incentive to relocate to the poorer country decreases, while the incentive to acquire foreign firms to take advantage of efficiency differences remains. As a result, the share of M&As in total FDI increases with the level of income of the host country. In line with their theoretical model, Nocke and Yeaple (2008) finds that the likelihood that US firms enter a country through M&As increases with its level of income.

One should therefore expect that the level of income correlates with the share of M&As in total FDI. We will therefore use GDP per capita in the host country as an explanatory variable.

A similar argument relates FDI inflows to agglomeration. Firms have an incentive to locate near existing firms to take advantage of agglomeration externalities. It means that the number of possible targets for acquisition should be larger in denser areas, which should result in a larger number of mergers and acquisitions. At the country or regional level, the strength of agglomeration externalities can be proxied by a measure of urbanization. Chen (2009) for instance observes that urbanization increases FDI inflows to Chinese regions. One may contend that urban areas not only attract foreign but also local firms. As a result there should be a larger number of attractive firms in more urban countries. We may therefore expect urbanization to correlate positively with the ratio of M&As to FDI. We therefore include the share of urban population as another explanatory variable.

An alternative—though narrower—measure of the supply of domestic firms to acquire is market capitalization of listed firms. Market capitalization can be viewed as a proxy for the availability of attractive targets in the host country, as Bertrand et al. (2007) argue. This is in line with the interpretation of Portes and Rey (2005) who use market capitalization as a measure of the mass of countries in a gravity equation applied to cross-border equity flows. Coeurdacier et al. (2009) also argue that takeovers are more likely when capital in the target country is cheaper, which can be assessed by the country's market capitalization to GDP ratio. In line with their prediction, Portes and Rey (2005) find that the volume of equity flows to a country increases with the host country's market capitalization. Similarly, Coeurdacier et al. (2009) find that the volume of M&As to a European country increases with its market capitalization. Hijzen et al. (2008) obtain the same result for the OECD. We are aware of no comparable results for greenfield investment nor total FDI. The notion that market capitalization raises M&A inflows should therefore imply that the ratio of M&As to total FDI increases with market capitalization.

However, market capitalization can also be interpreted as a measure of a country's financial development. This interpretation also suggests another relation between the market capitalization to GDP ratio and the share of M&As in total FDI.

Lehner (2009) builds a model to analyze the mode of entry of multinational banks. In that model the foreign bank has a superior screening ability than local banks, but does not have access to soft information about local borrowers. Acquiring a domestic bank is therefore a way to acquire soft information. If financial development reduces the need for soft information, one should expect the ratio of M&As to FDI to decrease with financial development, hence market capitalization. Another feature of the model is that when the size of the market increases, the price of domestic banks increases, which gives an incentive to prefer greenfield investment to M&As. Again it implies that one should expect the share of M&As to decrease with market capitalization. The two mechanisms may also apply outside of the banking sector, and may be observable at the aggregate level.

## ***2.2 Demand for FDI-type assets***

Regardless of the availability of domestic assets, foreign firms will not wish to enter a country if a given set of conditions is not met. Those conditions determine the demand for M&A-type transactions.

The first set of conditions gathers the factors that may facilitate communication with the parent firm, and within the country. It is standard in the literature to relate FDI inflows to countries' telecommunication infrastructure, as proxied by the number of telephone lines per inhabitant. Asiedu (2002/2006) or Sekkat and Véganzones-Varoudakis (2007) have found that variable to be positively related to FDI inflows.

The second condition is that the domestic policy stance be favorable to foreign investment and foreign trade in general. The key policy in that respect is the trade policy. Neary (2003/2007) argues that trade liberalization may lead to a merger wave. His line of reasoning is based on a two-country model with Cournot oligopolistic industries where the efficiency of firms differs across countries. In such a framework, trade increases the size of market, and may trigger a merger wave whereby efficient firms from one country acquire less efficient firms from the other country. Bjorvatn (2004) also puts forward a model where trade liberalization may trigger cross-border mergers under some conditions. The intuition here is that economic integration may intensify competition on the target market, thereby reducing the price of target firms. Rossi and Volpin (2004) argue that trade openness is more generally a proxy for the cultural attitude towards cross-border deals.

In line with those contentions, Coeurdacier et al. (2009) observe that bilateral goods trade activity correlates positively with bilateral merger activity. Hijzen et al. (2008) also observe that trade costs have a general negative impact on the overall M&A activity. However, the most suggestive piece of empirical evidence is provided by Nocke and Yeaple (2008). When analyzing the propensity of US multinational firms to enter foreign markets via a merger or greenfield investment, they find that the likelihood of entering a market via a merger increases with the trade openness of the host country. One may therefore infer from that finding that the share of M&As in total FDI should be an increasing function of openness to trade.

The third set of conditions consists of the quality of institutions in the host country. The notion that the quality of institutions affects FDI inflows is well established. Early evidence was provided by Schneider and Frey (1985). More recently, Alfaro et al. (2008) confirmed the relation. Méon and Sekkat (2007) provide a survey of the literature. However, that literature considers FDI as a whole, and hardly addresses the determinants of M&As, let alone greenfield investment. To infer what can be inferred from the literature about the impact of institutions on the composition of FDI inflows, it is useful to acknowledge that all the dimensions of a country's institutional framework may not affect FDI in the same way. In particular, the impact of political rights and of the protection of property rights may differ, as Li and Resnick (2003) observe.

With regards to property rights, neither country-risk rating agencies nor their customers will consider it a surprise that FDI is sensitive to the risk of expropriation. This notion was first statistically confirmed by Schneider and Frey (1985). It has since then been corroborated using different statistical techniques and empirical strategies in studies like Wei (2000), Harms and Ursprung (2002), Alfaro et al. (2008), Daude and Stein (2007), Busse and Hefeker (2007), Javorcik and Wei (2009), or Asiedu et al. (2009), although the relation may appear fragile in some groups of countries, as reported by Asiedu (2002) or Bevan and Estrin (2004). It may even be positive. Egger and Winner (2005) thus find that corruption stimulates FDI.

We are aware of no specific evidence on the impact of the protection of property rights on M&A flows. However, one may extrapolate from Henisz's intuition and findings. Henisz (2000) argues that foreign firms have an incentive to partner with local firms in the presence of political hazards, so as to mitigate the risk of expropriation. As joint ventures in general consist of the development of a new project, as opposed to acquiring an existing entity, one may expect the share of M&As to decrease when the risk of expropriation increases.

The impact of democracy and civil rights on FDI is a more controversial issue than the impact of the risk of expropriation. On the one hand, democracy can be viewed as a constraint on rulers, and therefore limits the risk of expropriation. That is for instance the view developed by North and Weingast (1989) in the case of seventeenth century England. On the other hand, one may also argue that a stable autocracy is an alternative solution to secure property rights. Olson's (1993) concept of stationary bandits is one example. More recently, Gehlbach and Keefer (2011) argue that institutionalized ruling parties are a way to provide investors with a credible commitment not to expropriate them. The empirical literature is slightly more optimistic, but not entirely consensual. Harms and Ursprung (2002) observe that FDI is attracted to countries that respect civil and political rights in a sample of developing and emerging countries over 1989-1997. Guerin and Manzcchi (2009) come to the same conclusion. Asiedu and Lien (2011) slightly qualify that finding by observing that the positive impact of democracy on FDI inflows only appears in countries where the share of minerals and oil in exports is small enough. Jensen (2003) also observes that FDI inflows are



larger in democracies, and relates that observation to the finding that democracies are overall perceived as less risky than autocracies. Li and Resnick (2003), however, observe that once the impact of democracy on the safety of property rights is controlled for, the remaining impact of democracy becomes negative.

Again, that literature considers total FDI inflows, and therefore pools together greenfield investment and M&As. However, Coeurdacier et al. (2009) focus explicitly on M&As. They argue that the cost of capital may be higher in countries with poor civil liberties, which may deter foreign acquisitions. When estimating a gravity equation on M&A flows, they control for civil liberties in host countries, and find that countries with poorer civil liberties attract less M&As. This finding does not preclude civil liberties having a similar impact on greenfield investment, but we are aware of no study of the impact of civil liberties on greenfield investment. We will therefore control for the civil rights in our regressions, but are a priori agnostic of its impact.

### **3. The Composition of FDI Flows**

#### **3.1 Data**

We are interested in the distribution of FDI inflows between M&A sales and greenfield investments. Our dependent variable is, therefore, the share of M&As in total FDI inflows. Data on M&A sales and total FDI inflows is provided in the UNCTAD's World Investment Report (UNCTAD 2007/ 2008). Following Calderón et al. (2004), we interpret the difference between total FDI inflows and M&A sales as greenfield FDI inflows.

The UNCTAD data is available on an annual basis over 1987-2005. However, we use five-year intervals except for the first period where we only consider four years due to data availability. The four periods are 1987-90, 1991-95, 1996-2000, 2001-05. The reason for considering five-year averages instead of annual values is due to the timing of disclosure of FDI and M&A data. As UNCTAD (2007, p.92) emphasizes, "... M&A statistics are those at the time of the closure of the deals, [...]. The M&A values are not necessarily paid out in a single year." This is an issue because the periods over which the numerator and the denominator of our dependent variable are measured do not match. To mitigate this problem, we consider five-year averages so that bulk of the value of announced deals should be disbursed by the end of a five-year period.

Figure 1 displays the evolution of the distribution of FDI flows across greenfield investment and M&As in developing countries.

Figure 1 shows that M&A sales as a share of total FDI in developing countries increased substantially around the turn of the millennium, but was affected by the global decline in M&As observed after 2001, which is consistent with the notion that business-cycle and financial conditions in the US and Europe may be an important determinant of this type of capital inflows, as argued by di Giovanni (2005).

Figure 2 complements the global picture of figure 1 by describing the evolution of individual countries between the last two periods of the period of study. It shows that, although overall fluctuations were accompanied with sizeable differences across countries, there is an increasing relation between one period's M&A to FDI ratio and the following period's ratio. The ratio therefore seems to be driven to a large extent by deep factors.

Finally, figure 3 describes the evolution of the ratio in MENA countries for which data is available.

It shows that MENA countries essentially relied on greenfield investment as opposed to M&As. In Libya and Iraq, the ratio remains equal to zero over the whole period of study. In Bahrain, Algeria, and Iran, the ratio peaks up in the late 1990s, but never exceeds 10 percent.

More precisely, its maximum is 5.84 in Bahrain in the second half of the 1990s. Algeria reaches its maximum of 9.06 in the first half of the 1990s, while Iran peaks at 5.24 in the early 2000s.

The only two countries where the ratio significantly exceeds 10 percent are Egypt and Morocco. In Egypt, the ratio already reaches 9.19 percent in the early 1990s, keeps on increasing up to 53.49 percent in the early 2000s. It then goes down but still reaches 11.27 percent in the final period. In Morocco, the ratio exceeds 20 percent in the second half of the 1990s, and reaches a maximum of 67.29 percent in the early 2000s, but remains around 25 percent in the late 2000s.

### 3.2 Estimation method

The explanatory variables are those listed in section 2. Our regression equation is therefore a variant of the following:

$$M\&A\ ratio_{it} = a_0 + a_1 \log(GDP_{it}) + a_2 openness_{it} + a_3 corruption_{it} + a_4 civil\ rights_{it} + a_5 market\ capitalisation_{it} + a_6 phones_{it} + a_7 urbanization_{it} + \xi_t + \varepsilon_{it} \quad (1)$$

Time dummies  $\xi_t$  are meant to capture period-specific effects—such as global growth surges and recessions—that might blur the separate effect of other determinants of FDI.

Regarding explanatory variables, GDP per capita in constant international dollars as well as real openness are provided by the Penn World Table (series RGDPCH and opennK), see Heston et al. 2009). The market capitalization to GDP ratio, was retrieved from the World Development Indicators database maintained by the World Bank. The number of phone lines and the share of urban population come from the same database.

Institutional variables come from two sources. We measure the risk of expropriation by the corruption index published in the International Country Risk Guide and civil rights by the “Gastil” index provided by Freedom House.

An issue with infrastructure and urbanization is that they correlate strongly with the country’s level of development and its GDP per capita. To make sure that our results are not affected by multicollinearity, we will therefore systematically consider three sets of regressions. We will first control for GDP per capita but not for infrastructure and urbanization in the first set. In the second set, we will do the opposite. In a third specification, we will include all regressors at the same time.

When merging those datasets, we end up with a sample containing up to 92 countries, both developed and developing over the four five-year periods spanning 1987-2005. As many observations display an M&A to FDI ratio that is equal either to zero or 100 percent, we estimate all the relations using a Tobit model censored at zero and 100. Moreover, we estimated two versions of the Tobit model. In the first, we pool observations and use a cluster-robust covariance matrix to compute standard errors, with clusters defined over countries. In the second version, we estimate the Tobit model with random country effects.<sup>1</sup> The next section discusses our main findings.

### 3.3 Findings

The results of our estimations are displayed in table 1 below. In that table, we estimate variants of equation 1 on the largest possible sample of countries, including developed and developing countries. The results from pooled tobit regressions are displayed in columns (1.1) to (1.3), and the results from panel tobit with random effects are displayed in columns

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<sup>1</sup> Note that introducing fixed effects instead of random effects would lead to biased estimators, because the Tobit model is a non-linear model. See Maddala (1987) for a discussion.

(1.4) to (1.6). The results are qualitatively and quantitatively similar for most dependent variables.

Starting from supply factors, GDP per capita is never related to the M&A to FDI ratio, at any level of statistical significance. However, market capitalization is always positively correlated with the ratio beyond the one-percent level of significance. This finding appears in both pooled and random effect regressions. It not only appears in regressions where GDP per capita is dropped, but also in regressions where it is included. A well-developed financial market therefore seems to encourage M&As as opposed to greenfield investment.

Turning now to demand factors, table 1 reveals no systematic effects of infrastructure or urbanization. Namely, the coefficients of the number of phones lines per inhabitant and of the share of urban dwellers in the total population, are not significant in any regression, at accepted levels of significance.

The results on institutional factors are more revealing. First the coefficient of civil rights is negative and significant beyond the one-percent level in all regressions, regardless of the specification and the estimation method. As greater values of the Gastil index signal poorer civil rights, it appears that poorer civil rights reduce the share of M&As in total FDI. In other words, M&As represent a larger share of FDI in more democratic countries, while greenfield investment is preferred elsewhere.

The result on corruption is less clear-cut. Namely, whereas the coefficient of corruption is not significant in pooled regressions, it becomes significantly positive at the five percent level in random effect regressions. The ICRG index is coded so as to increase when the control of corruption increases. A positive coefficient consequently implies that the share of M&As increases when corruption decreases.

The above results were obtained while pooling developing and developed countries. Nevertheless, the drivers of M&A and greenfield investment may differ in the two groups of countries. To take this possibility into account, we ran separate regressions for the two groups of countries, based on the classification of the World Bank. Table 2 displays the results of the regression in the sample of developing countries while table 3 reports the results for developed countries.

The results for developing countries confirm some results obtained for the whole sample. Namely, the coefficient of civil rights is still significantly negative in all regressions implying that poorer civil rights reduce the share of M&As in total FDI. Similarly, market capitalization remains associated with a larger M&A to FDI ratio. Finally, GDP per capita and the number of phone lines remain uncorrelated with the ratio.

Table 2 also reveals new features. On the negative side, the relation between the M&A ratio and openness becomes shaky. Namely, it only keeps its significant coefficient in regressions that do not control for urbanization, regressions (2.1) and (2.4). Elsewhere, it is insignificant. Similarly, corruption becomes insignificant in all regressions. On the positive side, urbanization now becomes positive and significant at the five percent level in all regressions. This suggests that, below a certain level of development, urbanization indeed increases the share of M&As in FDI inflows.

We now turn to the sample of developed countries. The results for that sample are reported in table 3. Again, civil rights and market capitalization keep the sign they exhibited in table 1. This is now also the case of openness. It therefore seems that the finding that openness results in a smaller M&A to FDI ratio is essentially driven by developed countries. Like in table 1, the number of phones is never significantly related to the share of M&As in total FDI. Like in table 1 too, but in contrast to developing countries, urbanization is never correlated with the

ratio in developed countries. The only new finding is that GDP per capita is now sometimes weakly related to the share of M&As, in regressions (3.1), (3.4), and (3.6).

To sum up, we find robust evidence that the share of M&As in total FDI increases with market capitalization and the quality of civil rights. We find that in developing countries, the share of M&As also increases with urbanization. In developed countries, the share of M&As decreases with openness, and increases with civil rights and market capitalization.

#### 4. The Volume of FDI Flows

So far, we have considered the ratio of M&A sales in total FDI inflows. Changes in this ratio may be due either to variations in the denominator or in the numerator. The above results do not allow us to disentangle the effects of the regressors on M&A and on total FDI, respectively. We therefore complement our baseline regressions by a series of regressions where the dependent variable is the volume of M&As and greenfield investment. We will also run a benchmark regression where the dependent variable is total FDI. The regression equations now read:

$$Y_{it} = a_0 + a_1 \log(GDP_{it}) + a_2 openness_{it} + a_3 corruption_{it} + a_4 civil\ rights_{it} + a_5 market\ capitalisation_{it} + a_6 phones_{it} + a_7 urbanization_{it} + \xi_t + \varepsilon_{it} \quad (2)$$

where  $Y$  stands in turn for the volume of FDI, for volume of M&As, and the volume of greenfield investment, all scaled down by GDP.

As in the previous section, the regressions were run first using pooled OLS then with random effects. In addition, the equations for M&As and greenfield investment were estimated as a system using the panel SURE method so as to take advantage of the correlation of error terms. As SURE estimates only differ from OLS estimates when the sets of regressors differ across equations, we drop market capitalization from the greenfield investment equation. Market capitalization captures the availability of possible targets for take-over. It should therefore affect mergers and acquisitions but not greenfield investment.

The relations were first estimated on the whole sample. The results are displayed in tables 4 and 5. They reveal some of the mechanisms at work in previous regressions. Starting with supply factors, the impact of market capitalization can be decomposed into two complementary effects. Namely, a greater market capitalization results in larger inflows of M&As on the one hand. On the other hand, a greater market capitalization reduces inflows of greenfield investment. The two effects add up, so that the ratio of M&A to FDI is an increasing function of market capitalization.

On the demand side, variables affect either greenfield investment or M&As. Thus, openness to trade increases greenfield investment but is not related to M&A inflows at conventional levels of statistical significance, which explains why the ratio of M&As to FDI is a decreasing function of trade openness.

Conversely, the impact of urbanization on the M&A to FDI ratio runs only through its positive impact on M&As, and not through its impact on greenfield investment. Similarly the finding that an improvement in civil rights raises the ratio of M&A to FDI is entirely due to the positive impact of civil rights on M&A inflows. Table 4 also signals that the negative impact of corruption on the ratio is due to a negative impact of corruption on M&A inflows.

Finally, while the number of phone lines per inhabitant was insignificant in table 1, table 4 now shows that a surprising negative impact of that variable on M&A inflows.

Table 5 complements the results of table 4 by providing panel SURE estimates with random effects. It confirms most results of table 4. In particular, it confirms that market capitalization increases M&A inflows while decreasing greenfield investment flows. Similarly, it confirms

that better civil rights increase M&As. At the same time, they seem to reduce greenfield investment. It also confirms the impact of urbanization on M&As. Table 5 also displays some new results. Namely, it appears that GDP per capita, that was insignificant in previous regressions, surprisingly has a positive impact on greenfield investment and a negative impact on M&A flows. Also, while openness is still found to increase greenfield investment, table 5 now suggests that it also increases M&A flows. However, the impact of openness on M&As is one order of magnitude smaller than its impact on greenfield investment, which is still consistent with the finding that openness to trade decreases the ratio of M&As to total FDI.

Finally, corruption is found to increase greenfield investment instead of decreasing M&As. Note that this result is still consistent with the finding that corruption increases the ratio of M&A to FDI.

Tables 6 and 7 report the results obtained for the sub-sample of developing countries. The results are consistent with previous results, and sometimes stronger. As before, market capitalization, urbanization, and civil rights increase M&As, while openness increases greenfield investment. If anything, corruption seems to reduce greenfield investment, but has no impact on M&As.

Tables 8 and 9 report the results for the sub-sample of developed countries. Again, they confirm the results of previous tables. The findings that openness increases greenfield investment, while better civil rights result in large M&A inflows are robust for developed countries. Both tables also confirm the positive impact of market capitalization on M&A inflows. The finding that urbanization increases M&As also receives some support in pooled OLS regressions. Finally, corruption is found to increase greenfield investment and decrease M&A inflows.

## **5. Implications for MENA Countries**

As figure A1 in the appendix shows, M&A ratios in the MENA region tend to be lower than in other regions.<sup>2</sup> In this section, we use the estimations of previous sections to assess the performance of MENA countries for which data is available. We start by focusing on the composition of the FDI they attract, and then study the volume of the various components.

### **5.1 Composition of FDI**

We first start by using estimations run on the largest sample of countries. Those regressions pool together developed and developing countries. They therefore provide a general yardstick against which to gauge the performance of MENA countries.

Figure 4a compares the actual average M&A to FDI ratio in all the MENA countries for which data is available and the average ratio predicted by estimation 1.3, obtained with a pooled tobit regression. The main lesson from the figure is that there is no general tendency among MENA countries. Some of them exhibit a ratio that is larger than their predicted ratio while others exhibit a smaller ratio. For some countries, the two ratios are quite similar.

The group of MENA countries that attracted more M&As relative to FDI than what estimation 1.3 predicts are Egypt, Jordan, and Tunisia. The gap between the two ratios can be sizeable. In Jordan, the actual ratio is 63%, while the estimation predicts a ratio of 38%, which is already high compared to the other countries of the region. The gap between the actual and predicted ratios is also large in Tunisia, where the actual ratio exceeds 26% while the predicted ratio is only 2.1%. In Egypt, the actual ratio reaches 22% vs. a 9% predicted ratio.

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<sup>2</sup> Note, however, that when a MENA dummy variable is introduced in the set of regressors, it turns out insignificant.

Countries that attracted less M&As as a share of total FDI, are Bahrain, Iran, Lebanon, Oman, and Qatar. The gaps between the two ratios are in general sizeable: 1.9% vs. 27% in Bahrain; 1.06% vs. 17.3% in Iran; and 1.59% vs. 12.4% in Lebanon.

The country that stands out as having the smallest gap between its observed and predicted ratios is Morocco, where the gap hardly exceeds 1 percentage point, suggesting that Morocco's performance is in line with the average relationship in the sample.

Figure 4b complements figure 4a by using panel tobit with random effects estimates. More precisely, specification 1.6 is used. Again, three groups of countries emerge. The countries that attracted more M&As than predicted by the regression are Egypt, Jordan, and Tunisia. The orders of magnitude are similar: an observed ratio of 22% vs. a predicted ratio of 14.7% in Egypt; 63% vs. 35.8% in Jordan; and 26.4% vs. 4.47% in Tunisia.

The countries that attracted less M&As as a share of FDI are again Bahrain, Iran, Lebanon, Oman, and Qatar: 1.9% vs. 25.4% in Bahrain; 1% vs. 19% in Iran; 1.59% vs. 13% in Lebanon; 6.8% vs. 11.32% in Oman; and 2.9% vs. 25.5% in Qatar.

Finally, Morocco again stands out as a country where both ratios are very similar (23.8 vs. 24.9).

A drawback of previous estimates is that they are based on regressions that pool together developed and developing countries. If parameters differ across countries, then estimated coefficients may be biased, and the diagnosis made so far may be partly erroneous. We therefore complement previous comments with comments based on estimations run on the sub-sample of developing countries. They are displayed in figures 5a and 5b.

Figure 5a compares the actual average M&As to FDI ratio in all the MENA countries for which data is available and the average ratio predicted by estimation 3.3, obtained with a pooled tobit regression. Again, the main lesson from the figure is that there is no general tendency among MENA countries, and that some of them exhibit a ratio that is larger than their predicted ratio while others exhibit a smaller ratio.

As before, the group of MENA countries that attracted more M&As relative to FDI than what estimation 3.3 predicts consists of Egypt, Jordan, and Tunisia. Gaps between the two ratios remain large. The estimation now predicts a ratio of 35.6% (vs. 63.2%) in Jordan; a ratio of 9% in Egypt (vs. 22%); and a ratio of 3.5% in Tunisia (vs. 26.4%).

By the same token, the group of countries that attracted less M&As than predicted still features Bahrain, Iran, Lebanon, and Qatar. In Bahrain, the predicted ratio is nearly 24.7% (vs. 1.9%). In Iran it is now 10.3% (vs. 1%). It is 3.5% in Tunisia (vs. 26.4%), while it is 19.6% (vs. hardly 2.9%) in Qatar.

Oman no longer belongs to that group, as its two ratios are very similar. The predicted ratio is now 7.25% while the observed ratio is 6.8%.

The gap between the two ratios remains limited in Morocco, where the predicted ratio is 19.9% vs. a 23.8% observed ratio.

The picture sketched by figure 5b is very similar to the picture sketched by figure 5a. Namely, the countries where the observed ratio is larger than the predicted ratio are Egypt (8.1% predicted vs. 22% observed), Jordan (37.2% vs. 63%), and Tunisia (4.8% vs. 26.4%).

The group of countries that could attract less M&A than predicted are still Bahrain (1.1% vs. 25.1%), Iran (1% observed vs. 10.2% predicted), Lebanon (1.6% vs. 11.7%), and Qatar (2.9% vs. 17.4%).

Like in previous estimations, the gap remains small for Morocco (20.1% predicted vs. 23.8% observed) and Oman (7.23% predicted vs. 6.8% observed).

Overall, the two sets of estimations bring about a consistent picture. Among the nine countries for which data is available, three attracted more M&As than expected (Egypt, Jordan, and Tunisia), four attracted less M&As than expected (Bahrain, Iran, Lebanon, and Qatar). Morocco behaved according to prediction. The diagnosis for Oman depends on the estimation. It either behaved according to the estimated models (if it is compared to developing countries), or attracted slightly less M&As (if it is compared to the whole sample). However, even in estimations that suggest that Oman was able to attract less M&As than expected, the gap does not exceed 5%.

## **5.2 Volume of FDI**

The previous results compare the observed and predicted relative shares of M&As in total FDI. Similar evolutions of the ratio may, however, hide differences in the evolution of the volume of total FDI and of its two components, M&As and greenfield investment.

In this section, we therefore use our estimations to compare the observed volumes of FDI attracted by MENA countries to their predicted values. The results discussed below are based on the estimates obtained in section 4. Figure 6a compares actual and predicted total FDI to GDP ratio. Figure 6b compares actual and predicted greenfield investment to GDP ratios, while figure 6c compares actual and predicted M&As to GDP ratios.

Let us first focus on the three countries whose M&As to FDI ratios were found larger than expected in previous section, namely Egypt, Jordan, and Tunisia.

Figure 6a shows that the observed total FDI to GDP ratio of Egypt is quite similar to its predicted ratio (2.6% in both cases). Figure 6b leads to a similar conclusion for its greenfield investment to GDP ratio (1.4% in both cases). Figure 6c shows that the larger M&As ratio in Egypt is driven by a larger than predicted M&As to GDP ratio. Its observed ratio is nearly twice as large as its predicted ratio (4.3% vs. 2.5%). It therefore seems that Egypt does not suffer from a difficulty to attract greenfield investment, but has rather been successful in attracting mergers and acquisitions.

The case of Jordan is reminiscent of Egypt's. Namely, its total FDI to GDP ratio equals its predicted value (3.6% in both cases). Its greenfield investment ratio is slightly lower than predicted (1.9% vs. 2.4%). Therefore, the bulk of the difference between its predicted and actual M&As to FDI ratio is driven by its propensity to attract more mergers and acquisitions than what its characteristics should imply.

The case of Tunisia is more ironic. It was repeatedly found to exhibit a larger observed than predicted M&As to FDI ratio in previous section. However, when focusing on FDI flows scaled down by GDP the finding is reversed. Namely, the country's overall FDI to GDP ratio is close to its predicted level (2.8% vs. 2.9%). However, both its greenfield to GDP ratio and its M&As to GDP ratio are similar to their predicted value (respectively 2% vs. 1.9% and 0.25% vs. 0.3%). We have no ready explanation for that finding.

Let us now turn to the countries that were found in previous section to exhibit actual M&As to FDI ratios that were lower than expected. Due to data availability, figures 6a to 6c feature two such countries: Iran and Lebanon.

Iran is found to attract less FDI as a share of its GDP than predicted by regression 7.1 (0.22% vs. 2.9%). Figures 6a and 6b show that the finding for total FDI can be similarly observed when FDI is broken down across greenfield investment and M&As. Both ratios are smaller than predicted (0.11% vs. 1.77% for greenfield investment and 0.0044% vs. 0.37% for

M&As). Accordingly, Iran's performance in attracting FDI is generally poor, but it is even poorer in terms of attracting mergers and acquisitions.

Lebanon exhibits a larger FDI to GDP ratio than what estimation 7.1 predicts (5.6% vs. 3.1%). This is essentially driven by a larger than expected capacity to attract greenfield investment (5.4% vs. 2.4%). Conversely, Lebanon performed less well than predicted in terms of M&As (0.02% vs. 5.8%). Its smaller than predicted M&As to FDI ratio is therefore the outcome of a larger than expected capacity to attract greenfield investment and a smaller than predicted capacity to attract mergers and acquisitions.

## **6. Concluding Remarks**

Mergers and acquisitions and greenfield FDI are unlikely to contribute to growth and development in the same way. More precisely, the latter has been found to increase growth while the former does not seem to affect it (Harms and Méon 2011). The present paper provides the first attempt to unveil the determinants of the distribution of FDI inflows across the two entry modes at the aggregate level.

We find that the ratio of M&As to total FDI inflows increases with market capitalization and better civil rights, while openness to trade reduces the share of M&As in favor of greenfield investment. In addition, urbanization increases the ratio in developing countries.

Those results do not imply the same evolution for the volumes of M&A inflows and greenfield investment, and may therefore call for different policy reactions. For instance, market capitalization, civil rights, and urbanization only affect M&A flows, but do not correlate with greenfield investment flows. They may therefore not affect growth, at least through their effect on foreign capital flows. Conversely, the impact of openness to trade on the ratio of M&As to FDI inflows runs entirely through its positive impact of greenfield investment. Its impact on growth is therefore unambiguous. Exploring how to influence those flows calls for further research.



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## **Data Appendix**

FDI: Net FDI inflows in US dollars relative to GDP. Source: UNCTAD (2009).

M&A sales: M&A sales in US dollars relative to GDP. Source: UNCTAD (2009).

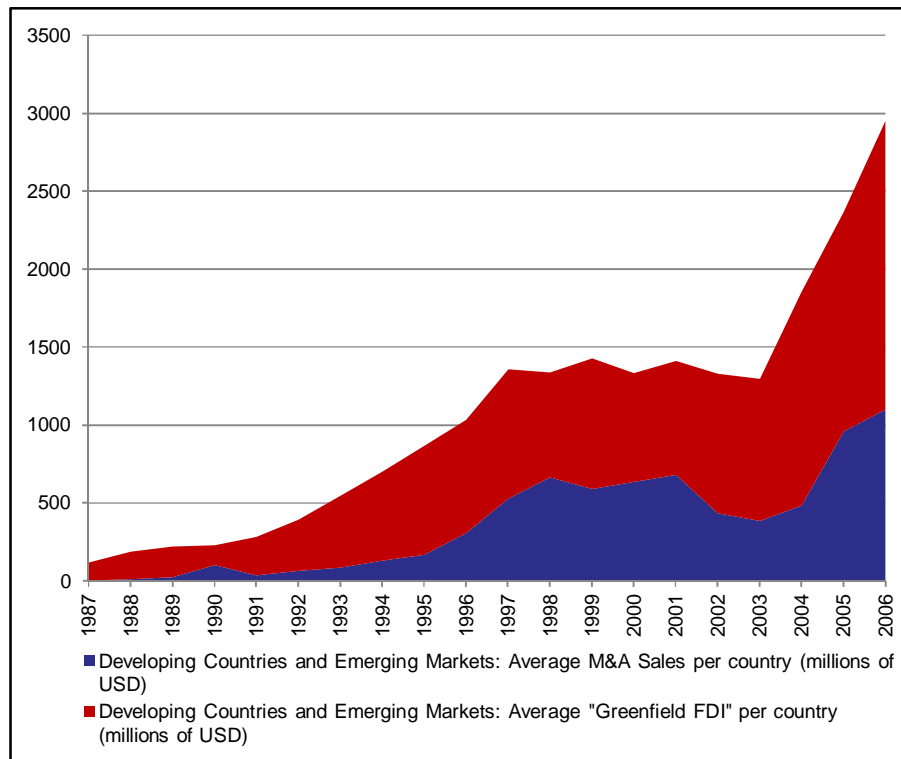
GDP: Gross Domestic Product in current US dollars. Source: World Bank (2010).

Trade Openness: Sum of exports and imports relative to GDP. Source: Heston et al. (2009).

Fraser legal structure: Index of legal structure and the security of property rights. Source: Fraser Institute (2009).

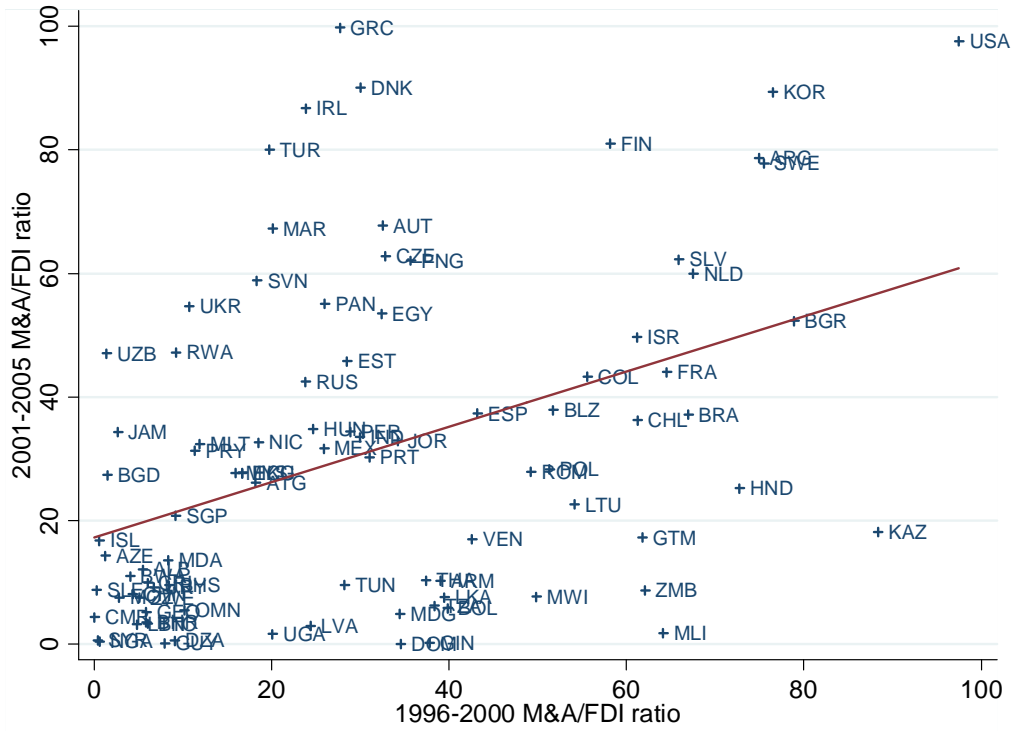
Oil: Dummy for oil-exporting countries. Source: Morsy (2009).

**Figure 1: Greenfield FDI and M&A Sales in Developing Countries and Emerging Markets**



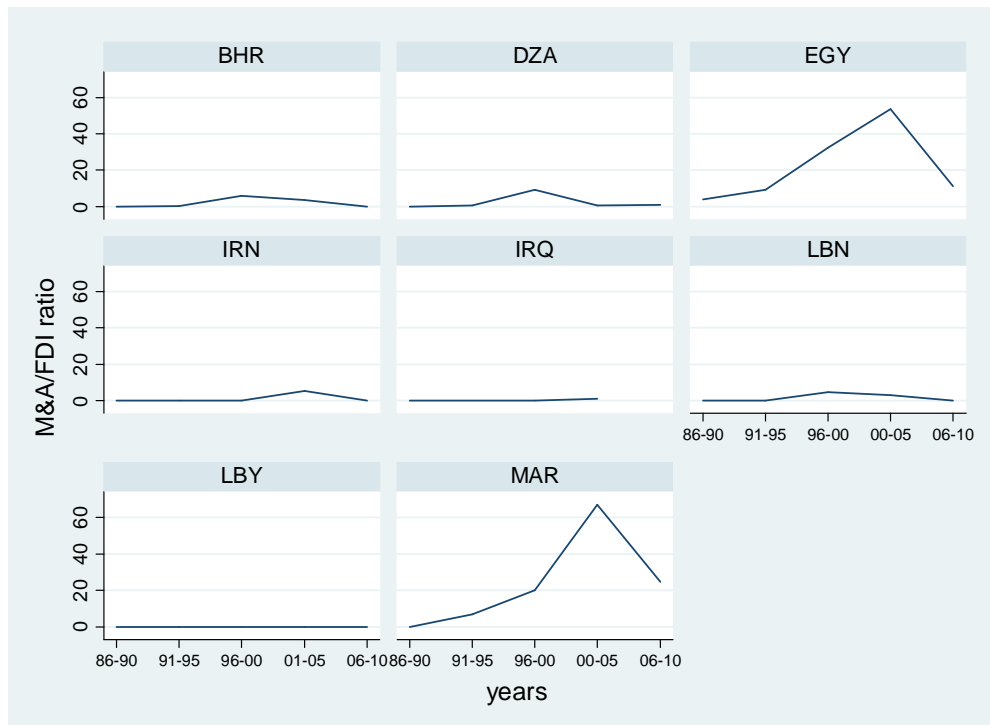
Source: UNCTAD.

**Figure 2: Evolution of the M&A to FDI ratio between 1996-2000 and 2001-05**



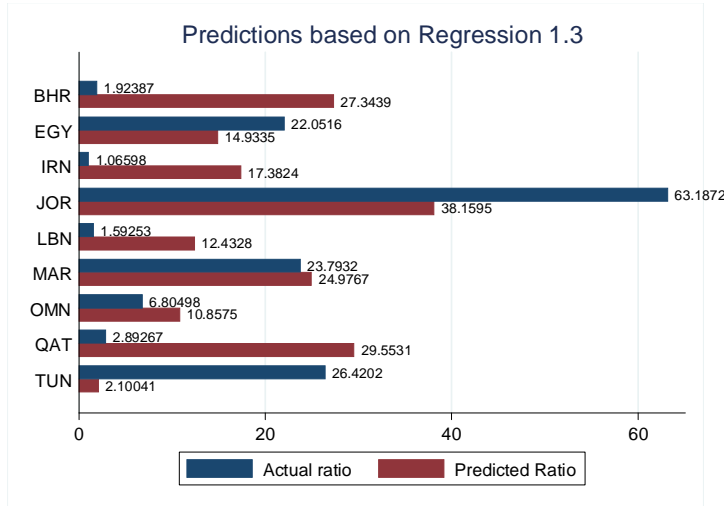
Source: UNCTAD.

**Figure 3: Evolution of the M&A to FDI Ratio in MENA Countries**

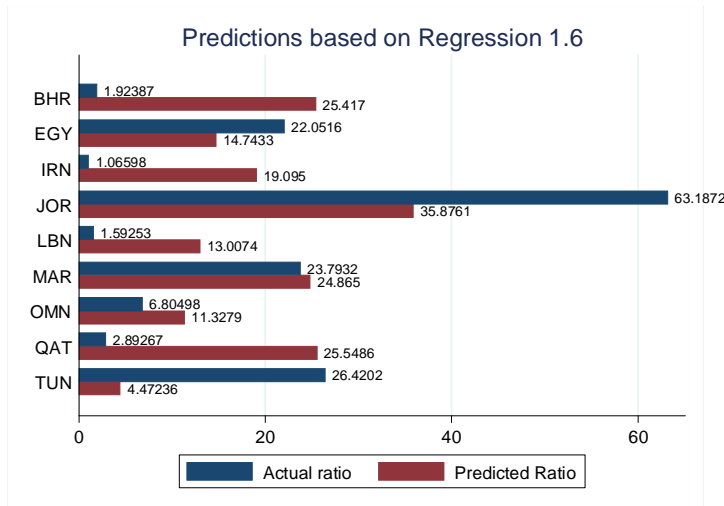


Source: UNCTAD and authors' calculations.

**Figure 4a: Actual vs. Predicted Ratios, Whole Sample, Pooled Tobit Estimates**

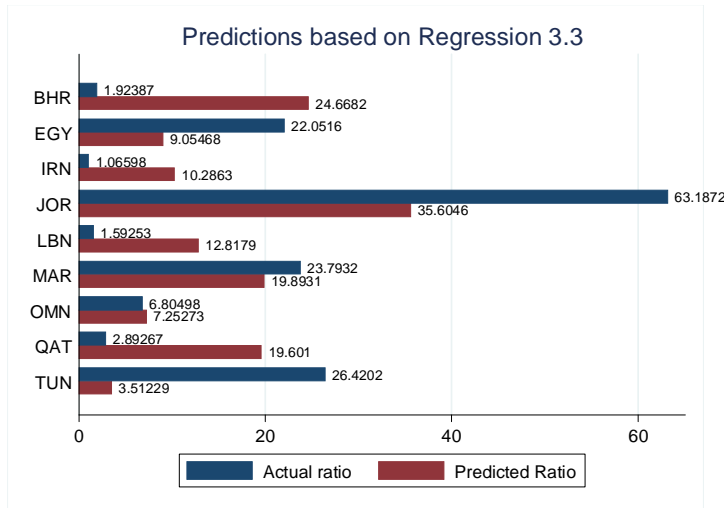


**Figure 4b: Actual vs. Predicted Ratios, Whole Sample, Panel Tobit With Random Effect**

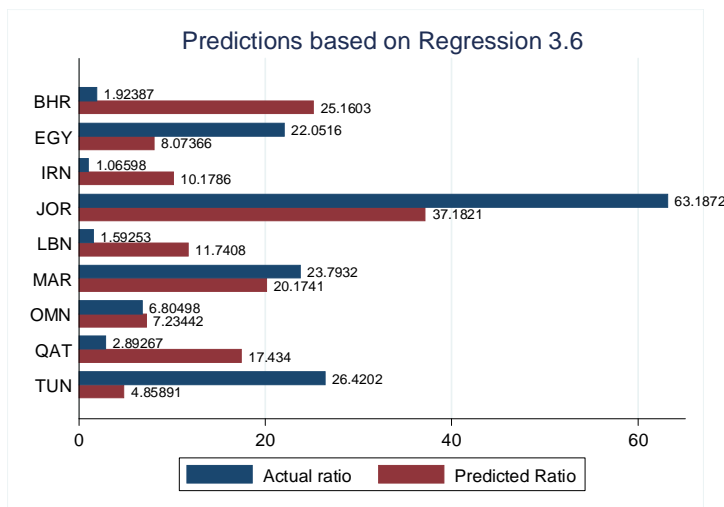




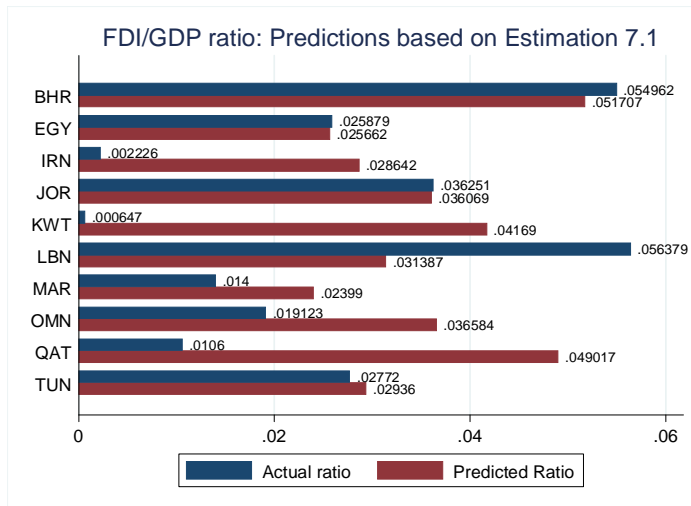
**Figure 5a: Actual vs. Predicted Ratios, Developing Countries, Pooled Tobit Estimates**



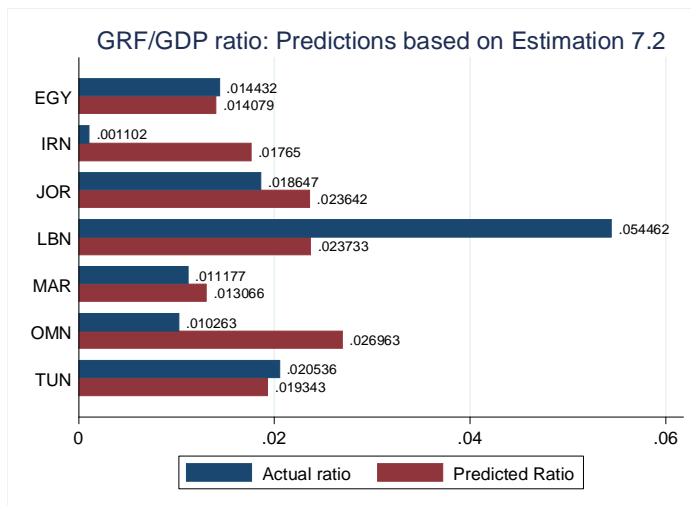
**Figure 5b: Actual vs. Predicted Ratios, Developing Countries, Panel Tobit With Random Effect**



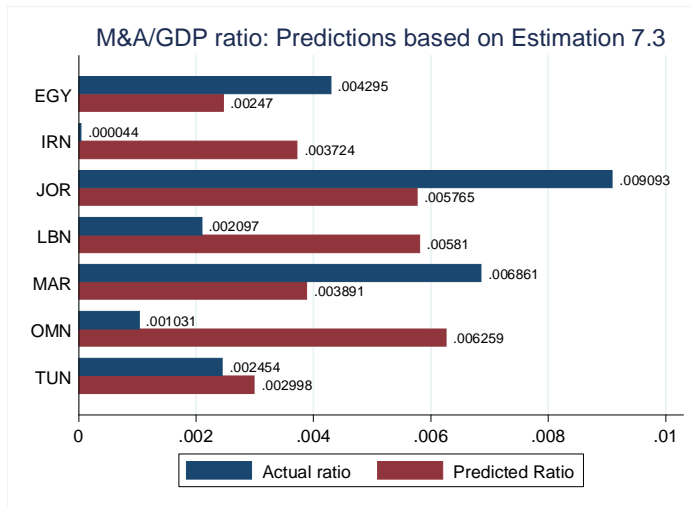
**Figure 6a: Actual vs. Predicted Volume Of FDI, Developing Countries, Pooled OLS Estimates**



**Figure 6b: Actual vs. Predicted Volume Of Greenfield Investment, Developing Countries, Panel Sure Estimates**



**Figure 6c: Actual vs. Predicted Volume Of M&As, Developing Countries, Panel Sure Estimates**



**Table 1: Dependent Variable: M&A to Total FDI Ratio: Whole Sample**

	(1.1) Pooled	(1.2) Pooled	(1.3) Pooled	(1.4) RE	(1.5) RE	(1.6) RE
Log(GDP per capita)	0.188 (0.0604)		-2.873 (-0.524)	-0.0280 (-0.00940)		-3.825 (-0.740)
Real openness	-0.246 (-5.140)***	-0.248 (-5.489)***	-0.248 (-5.472)***	-0.215 (-4.097)***	-0.219 (-4.149)***	-0.218 (-4.140)***
Absence of corruption	4.699 (1.532)	4.551 (1.516)	4.662 (1.532)	5.513 (2.173)**	5.114 (1.977)**	5.297 (2.039)**
Oppression of civil rights	-6.073 (-3.606)***	-6.388 (-3.671)***	-6.456 (-3.727)***	-5.880 (-3.738)***	-6.086 (-3.768)***	-6.188 (-3.821)***
Market capitalization/GDP	0.324 (4.083)***	0.321 (4.221)***	0.329 (4.176)***	0.256 (3.956)***	0.251 (3.945)***	0.263 (4.015)***
Urbanization		0.204 (1.243)	0.225 (1.309)		0.171 (1.025)	0.207 (1.191)
Phones		-1.945 (-0.603)	-0.289 (-0.0742)		-1.286 (-0.423)	0.701 (0.173)
Constant	52.07 (1.891)*	47.87 (3.563)***	67.64 (1.757)*	52.36 (2.026)**	47.22 (4.030)***	73.36 (1.970)**
Observations	288	285	285	288	285	285
Number of countries	92	91	91	92	91	91

Robust t-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Year fixed-effects not reported.

**Table 2: Dependent Variable: M&A to Total FDI Ratio: Developing Countries Only**

	(2.1) Pooled	(2.2) Pooled	(2.3) Pooled	(2.4) RE	(2.5) RE	(2.6) RE
Real openness	-0.172 (-2.006)**	-0.135 (-1.551)	-0.134 (-1.572)	-0.141 (-1.813)*	-0.107 (-1.352)	-0.106 (-1.341)
Absence of corruption	2.904 (0.850)	2.545 (0.798)	2.507 (0.790)	4.070 (1.306)	3.642 (1.159)	3.687 (1.175)
Oppression of civil rights	-5.027 (-2.847)***	-4.956 (-2.872)***	-5.168 (-3.005)***	-4.738 (-2.983)***	-4.690 (-3.006)***	-4.907 (-3.129)***
Market capitalization/GDP	0.254 (2.046)**	0.259 (2.012)**	0.259 (2.036)**	0.233 (3.013)***	0.241 (3.160)***	0.243 (3.198)***
Urbanization		0.334 (2.221)**	0.358 (2.469)**		0.346 (2.047)**	0.380 (2.210)**
Phones		-4.463 (-1.497)	-1.535 (-0.353)		-4.778 (-1.537)	-1.535 (-0.362)
Log(GDP per capita)	-1.305 (-0.399)		-5.445 (-0.870)	-1.831 (-0.559)		-6.312 (-1.115)
Constant	44.88 (1.352)	37.59 (2.460)**	52.09 (1.055)	42.70 (1.469)	32.80 (2.336)**	52.05 (1.160)
Observations	185	182	182	185	182	182
Number of countries	62	61	61	62	61	61

Notes: Robust t-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Year fixed-effects not reported.

**Table 3: Dependent Variable: M&A to Total FDI Ratio: Developed Countries Only**

	(3.1) Pooled	(3.2) Pooled	(3.3) Pooled	(3.4) RE	(3.5) RE	(3.6) RE
Log(GDP per capita)	35.33 (1.936)*		31.60 (1.659)	36.14 (2.136)**		30.66 (1.670)*
Real openness	-0.208 (-3.061)***	-0.256 (-3.895)***	-0.217 (-3.235)***	-0.202 (-2.542)**	-0.221 (-1.971)**	-0.211 (-2.472)**
Absence of corruption	-1.984 (-0.271)	-3.064 (-0.369)	-3.238 (-0.408)	-1.622 (-0.299)	-3.314 (-0.568)	-3.112 (-0.541)
Oppression of civil rights	-15.22 (-2.891)***	-11.02 (-1.996)**	-14.72 (-2.357)**	-14.98 (-3.256)***	-9.486 (-1.604)	-12.45 (-2.075)**
Market capitalization/GDP	0.397 (2.996)***	0.431 (3.019)***	0.380 (2.788)***	0.203 (1.614)	0.220 (1.616)	0.193 (1.555)
Urbanization		0.290 (0.718)	0.191 (0.486)		0.192 (0.412)	0.0386 (0.0820)
Log(Phones)		23.21 (0.938)	9.421 (0.393)		31.96 (1.309)	19.58 (0.794)
Constant	-276.7 (-1.550)	-23.27 (-0.295)	-283.0 (-1.554)	-270.5 (-1.584)	-35.84 (-0.401)	-288.7 (-1.643)
Observations	103	103	103	103	103	103
Number of countries	30	30	30	30	30	30

Notes: Robust t-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Year fixed-effects not reported.

**Table 4: Dependent Variable: FDI to GDP Ratio, Greenfield Investment to GDP Ratio, and M&As to GDP Ratio. Pooled OLS Estimates**

	(4.1) FDI	(4.2) GRF	(4.3) M&As	(4.4) FDI	(4.5) GRF	(4.6) M&As
Log(GDP per capita)	-0.000407 (-0.163)	0.000721 (0.323)	-0.00113 (-1.588)			
Real openness	0.000345 (12.01)***	0.000305 (10.62)***	3.97e-05 (1.482)	0.000340 (11.80)***	0.000301 (9.819)***	3.86e-05 (1.348)
Market capitalization/GDP	-1.57e-06 (-0.0436)	-5.56e-05 (-1.813)*	5.40e-05 (1.864)*	-6.83e-06 (-0.198)	-5.63e-05 (-1.838)*	4.95e-05 (1.849)*
Absence of corruption	0.000784 (0.466)	-0.00147 (-0.894)	0.00226 (2.352)**	0.000249 (0.140)	-0.00220 (-1.329)	0.00245 (2.405)**
Oppression of civil rights	-0.000503 (-0.384)	0.00128 (1.084)	-0.00178 (-3.419)***	-0.000378 (-0.286)	0.00169 (1.519)	-0.00207 (-3.429)***
Urbanization				8.06e-05 (0.478)	-7.58e-05 (-0.499)	0.000156 (3.185)***
Log(Phones)				-0.000164 (-0.0598)	0.00269 (1.061)	-0.00286 (-2.983)***
Constant	-0.00482 (-0.235)	-0.0120 (-0.653)	0.00718 (1.062)	0.00344 (0.389)	-0.00114 (-0.136)	0.00458 (1.122)
Observations	291	291	291	288	288	288
R-squared	0.476	0.412	0.326	0.478	0.418	0.352
Adjusted R-squared	0.461	0.395	0.307	0.461	0.399	0.331
F-test	31.87	22.46	10.55	30.43	17.87	9.761

Notes: Robust t-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Year fixed-effects not reported.

**Table 5: Dependent Variable: FDI to GDP Ratio, Greenfield Investment to GDP Ratio, and M&As to GDP Ratio. Panel SURE Estimates, Random Effects**

	(5.1) FDI	(5.2) GRF	(5.3) M&A	(5.4) FDI	(5.5) GRF	(5.6) M&A
Log(GDP per capita)	-0.000438 (-0.189)	0.000746 (1.361)	-0.00199 (-2.162)**			
Real openness	0.000311 (7.516)***	0.000275 (31.79)***	3.46e-05 (2.218)**	0.000306 (7.314)***	0.000278 (19.96)***	4.40e-05 (4.971)***
Absence of corruption	0.000574 (0.328)	-0.00155 (-3.052)***	-0.000456 (-0.538)	0.000483 (0.270)	-0.00353 (-4.026)***	0.000699 (1.315)
Oppression of civil rights	0.000433 (0.389)	0.000924 (3.025)***	-0.00433 (-8.312)***	0.000548 (0.479)	0.00184 (3.273)***	-0.00322 (-9.500)***
Market capitalization/GDP	7.11e-05 (1.638)		1.28e-05 (0.547)	6.76e-05 (1.592)		1.94e-05 (1.458)
Urbanization				9.45e-05 (0.696)	4.34e-05 (0.709)	0.000192 (5.300)***
Log(Phones)				-0.000832 (-0.358)	0.00232 (2.065)**	-0.00285 (-4.375)***
Constant	0			-0.0101 (-1.021)		
Observations	291	291	291	288	288	288

Notes: z-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6: Dependent Variable: FDI to GDP Ratio, Greenfield Investment to GDP Ratio, and M&As to GDP Ratio. Pooled OLS Estimates: Developing Countries Only**

	(6.1) FDI	(6.2) GRF	(6.3) M&As	(6.4) FDI	(6.5) GRF	(6.6) M&As
Log(GDP per capita)	0.00431 (1.547)	0.00373 (1.398)	0.000582 (0.657)			
Real openness	0.000229 (4.290)***	0.000194 (4.649)***	3.48e-05 (1.267)	0.000217 (3.706)***	0.000170 (3.618)***	4.72e-05 (1.813)*
Market capitalization/GDP	-3.01e-05 (-0.533)	-4.04e-05 (-0.702)	1.03e-05 (0.398)	-3.29e-05 (-0.570)	-4.47e-05 (-0.728)	1.17e-05 (0.462)
Absence of corruption	0.000205 (0.0878)	-0.000841 (-0.375)	0.00105 (1.199)	-0.000284 (-0.112)	-0.00119 (-0.504)	0.000911 (1.071)
Oppression of civil rights	-0.000276 (-0.181)	0.00129 (0.987)	-0.00157 (-2.533)**	-0.000271 (-0.190)	0.00126 (1.055)	-0.00153 (-2.497)**
Urbanization				-2.85e-05 (-0.151)	-0.000169 (-0.927)	0.000141 (3.738)***
Log(Phones)				0.00389 (1.156)	0.00488 (1.489)	-0.000986 (-1.326)
Constant	-0.0173 (-0.733)	-0.0233 (-1.087)	0.00598 (0.702)	0.0143 (1.284)	0.00994 (1.006)	0.00432 (1.162)
Observations	187	187	187	184	184	184
R-squared	0.303	0.201	0.252	0.305	0.213	0.287
Adjusted R-squared	0.272	0.165	0.218	0.269	0.173	0.250
F-test	11.28	9.631	7.591	12.58	9.604	6.676

Notes: Robust t-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7: Dependent Variable: FDI to GDP Ratio, Greenfield Investment to GDP Ratio, and M&As to GDP Ratio. Panel SURE Estimates, Random Effects: Developing Countries Only**

	(7.1) FDI	(7.2) GRF	(7.3) M&A	(7.4) FDI	(7.5) GRF	(7.6) M&A
Log(GDP per capita)	0.00426 (1.351)	0.00518 (8.496)***	0.00236 (1.854)*			
Real openness	0.000134 (1.923)*	0.000131 (10.89)***	1.80e-05 (0.568)	0.000120 (1.621)	0.000140 (4.823)***	3.63e-05 (2.410)**
Absence of corruption	-0.000300 (-0.138)	-0.00110 (-2.155)**	-0.000524 (-0.433)	-0.000194 (-0.0869)	0.000125 (0.0955)	0.000286 (0.478)
Oppression of civil rights	0.000306 (0.243)	-9.40e-05 (-0.341)	-0.00250 (-3.764)***	0.000320 (0.250)	0.00188 (2.859)***	-0.00161 (-5.129)***
Market capitalization/GDP	4.77e-05 (0.736)		-1.48e-05 (-0.450)	5.66e-05 (0.857)		8.48e-06 (0.526)
Urbanization				-1.67e-05 (-0.0952)	-5.75e-05 (-0.688)	0.000201 (5.299)***
Log(Phones)				0.00260 (0.878)	0.00635 (4.222)***	-0.00116 (-1.691)*
Observations	187	187	187	184	184	184

Notes: z-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 8: Dependent Variable: FDI to GDP Ratio, Greenfield Investment to GDP Ratio, and M&As to GDP Ratio. Pooled OLS Estimates: Developed Countries Only**

	(8.1) FDI	(8.2) GRF	(8.3) M&As	(8.4) FDI	(8.5) GRF	(8.6) M&As
Log(GDP per capita)	-0.0102 (-0.943)	-0.0206 (-2.517)**	0.0104 (1.160)			
Real openness	0.000412 (8.076)***	0.000342 (11.49)***	7.03e-05 (1.454)	0.000419 (10.07)***	0.000363 (12.16)***	5.61e-05 (1.295)
Market capitalization/GDP	9.29e-05 (1.395)	5.64e-06 (0.116)	8.73e-05 (1.389)	6.48e-05 (1.071)	-6.08e-05 (-1.188)	0.000126 (2.400)**
Absence of corruption	0.00269 (1.208)	-0.00132 (-0.520)	0.00401 (1.578)	0.00139 (0.765)	-0.00466 (-2.121)**	0.00605 (2.628)**
Civil rights	-0.00277 (-0.833)	0.00142 (0.515)	-0.00419 (-1.865)*	-0.00540 (-1.365)	0.00166 (0.454)	-0.00707 (-3.024)***
Urbanization				0.000284 (1.388)	-5.90e-05 (-0.272)	0.000343 (2.378)**
Log(Phones)				-0.00130 (-0.0931)	0.0179 (1.301)	-0.0192 (-2.144)**
Constant	0.0770 (0.757)	0.197 (2.562)**	-0.120 (-1.401)	-0.0309 (-0.659)	-0.0535 (-1.115)	0.0226 (0.796)
Observations	104	104	104	104	104	104
R-squared	0.725	0.672	0.472	0.728	0.653	0.512
Adjusted R-squared	0.702	0.645	0.428	0.701	0.620	0.465
F-test	18.59	91.21	6.193	20.18	54.34	5.647

Notes: Robust t-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

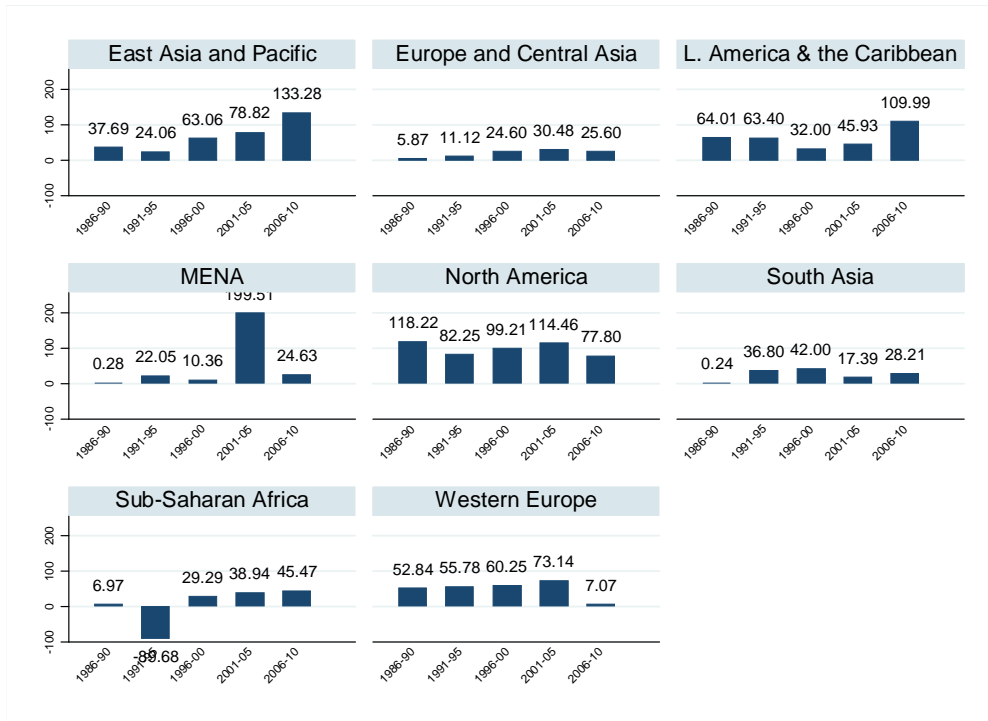
**Table 9: Dependent Variable: FDI to GDP Ratio, Greenfield Investment to GDP Ratio, and M&As to GDP Ratio. Panel SURE Estimates, Random Effects: Developed Countries Only**

	(9.1)	(9.2)	(9.3)	(9.4)	(9.5)	(9.6)
	FDI	GRF	M&A	FDI	GRF	M&A
Log(GDP per capita)	-0.00989 (-1.262)	-0.000862 (-0.215)	-0.00191 (-0.632)			
Real openness	0.000413 (11.56)***	0.000353 (19.17)***	7.00e-05 (4.651)***	0.000421 (11.22)***	0.000368 (20.35)***	6.34e-05 (4.350)***
Absence of corruption	0.00266 (1.011)	-0.00273 (-2.000)**	0.00545 (5.057)***	0.00145 (0.468)	-0.00481 (-3.255)***	0.00111 (0.974)
Oppression of civil rights	-0.00275 (-1.262)	0.000421 (0.343)	-0.00281 (-3.084)***	-0.00515 (-1.783)*	-0.000847 (-0.598)	-0.00480 (-4.106)***
Market capitalization/GDP	9.36e-05 (1.801)*		0.000137 (7.216)***	7.18e-05 (1.286)		0.000131 (7.054)***
Urbanization				0.000291 (1.478)	-7.03e-05 (-0.717)	7.63e-05 (0.990)
Log(Phones)				-0.00157 (-0.119)	0.00337 (0.534)	0.000979 (0.197)
Constant	0.0852 (1.088)			-0.0245 (-0.533)		
Observations	104	104	104	104	104	104

Notes: z-statistics in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1



**Figure A1: M&A to FDI Ratios by Region**



Source: UNCTAD and authors' calculations.